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ABSTRACT

The thesis presents a literature review of selected characteristics of learning disabled children and the relationship between these characteristics and reading. Thirty-three characteristics are discussed, divided into three categories: selected cognitive abilities, speech and language development, and selected behavioral and emotional-social characteristics. A discussion of Piaget's theory of cognitive development and its relationship to reading is also included. A slight positive relationship was found between reading and four Piagetian tasks: symbolic functioning, conservation, classification, and seriation. Four approaches to teaching reading to learning disabled children are considered (the language experience approach, the phonics approach, the individualized approach, and the programmed reading approach) and their advantages and disadvantages discussed. Among other things, reading was found to be related to such things as concept formation, divergent and convergent thinking, visual reception, and expressive language abilities. The concept of maturational lag was also found to be an important variable. Research was found to be either inconclusive or contradictory concerning the relationship between reading and such things as visual acuity, memory, and hyperactivity. Modality preference training is also considered. (Author/DLS)

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THE RELATIONSHIP BETWEEN READING AND SELECTED CHARACTERISTICS
OF CHILDREN WITH LEARNING DISABILITIES AND ADVANTAGES
AND DISADVANTAGES OF FOUR READING APPROACHES AS
THEY RELATE TO LEARNING DISABLED CHILDREN:
A REVIEW OF LITERATURE

An Advanced Research Project
Presented to Dr. Daniel L. Peterson
Professor of Special Education
Northern Arizona University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Education
ESE 770: Seminar in Special Education

by
John J. Hoover
December 1978

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This research project consisted of a literary review of selected characteristics of children with learning disabilities and the relationship between reading and these characteristics. The thirty-three characteristics discussed were divided into three categories. They were: (1) selected cognitive abilities; (2) speech and language development; and (3) selected behavioral and emotional-social characteristics. Also included was a discussion of Piaget's Theory of Cognitive Development and the relationship between reading and selected aspects of this theory.

This review of literature also considered four approaches to teaching reading to children with learning disabilities. These approaches were discussed in terms of their advantages and disadvantages, as they are utilized with learning disabled children.

A relationship was found, varying in degrees, between reading and concept formation, divergent and convergent thinking, visual reception, discrimination, closure, and memory, auditory closure, adequate speech and language development, adequate inner, receptive, and expressive language abilities, sizeable listening and speaking vocabularies, syntax disorders, and impulsivity. The concept of maturational lag was also found related to reading, based upon the idea that some children may not be ready for traditional approaches in beginning reading instruction.

The research was either inconclusive or contradictory concerning the relationship between reading and visual acuity, auditory acuity, memory, discrimination, and reception, attention deficits, hyperactivity, distractibility, perseveration, and adequate peer relationships.

Modality preference and training were also considered. Research showed that "process training" did not enhance reading achievement. Results concerning the "preferred modality approach" and reading achievement were either inconclusive or showed insignificant results. Little information was found concerning the "combined modality approach" and its effect upon reading achievement.

The four Piagetian tasks discussed within this project included: symbolic functioning, conservation, classification, and seriation. A slight, but positive, relationship was found between reading and these four tasks, with seriation achieving the highest relationship.

The Language-Experience Approach was found to be as effective as other reading approaches. The effectiveness of phonics, as it is used with learning disabled children, was found to be dependent upon the child and the situation. Various authors indicated that, unless very favorable learning conditions existed, the Individualized Reading Approach was likely to be less effective than other, more structured reading methods. The literature was inconclusive concerning the effectiveness of Programmed Reading Instruction, as used with a child who has learning disabilities.

TABLE OF CONTENTS

Chapter	Page
1. INTRODUCTION	1
Introduction to the Problem	1
Statement of the Problem	2
Theoretical Framework	4
2. SELECTED COGNITIVE ABILITIES AND THEIR RELATIONSHIP TO READING	8
Concept Formation	8
Thinking	9
Theory of Piaget and Its Implications for Reading	11
Perception and Memory	18
Selected Visual Perception Abilities	21
Visual Acuity	21
Visual Reception	22
Visual Discrimination	23
Visual Closure	24
Visual Memory	24
Selected Auditory Perception Abilities	25
Auditory Acuity	26
Auditory Reception	27
Auditory Discrimination	27
Auditory Closure	29
Auditory Memory	30

Chapter	Page
Central Processing and Reading	31
Process Training	32
Preferred Modality Approach	33
Combined Modality Approach	34
3. SELECTED ELEMENTS OF SPEECH AND LANGUAGE DEVELOPMENT	36
Inner Language	37
Receptive Language	38
Expressive Language	40
Vocabulary Development	42
Listening Vocabulary	42
Speaking Vocabulary	43
Language Deficits	44
Disorders of Syntax	45
Maturational Lag	46
4. SELECTED BEHAVIORAL AND EMOTIONAL-SOCIAL CHARACTERISTICS AND THEIR RELATIONSHIP TO READING	48
Behavior Characteristics	49
Attention Deficits	49
Hyperactivity	51
Distractibility	53
Impulsivity	54
Perseveration	55

Chapter	Page
Emotional-Social Characteristics	56
Role of Self-Concept in Reading Achievement	58
Peer Relationships	59
5. SELECTED READING APPROACHES: ADVANTAGES AND DISADVANTAGES	61
The Language-Experience Approach	62
Phonics Approach	67
Individualized Approach	70
Programmed Reading Approach	73
6. SUMMARY	77
Summary of Research	78
Recommendations for Future Research	84
LITERATURE CITED	36

Chapter 1

INTRODUCTION

Introduction to the Problem

Research clearly indicated that the field of reading is an area which has been consistently and extensively investigated. Emphasized within this research is the importance of reading in relation to academic learning and also in relation to today's world. As an example, Kirk et al. (1978) stated that, "The level of reading competency required for many occupations is surprisingly high," and that reading skills are necessary throughout life.

With reference to reading ability and learning, Faas (1976) wrote that, "Failure of reading eventually leads to problems in all the academic activities a child encounters in school." Supporting this is Lerner (1976), who documented that reading is the basic tool for all subjects in school. The field of reading, particularly the area of remedial reading, is one discipline which is concerned with children who have reading difficulties.

Another discipline concerned with reading difficulties is the relatively new field of Learning Disabilities. Literature showed that the learning disabled child has a number of complex and often misunderstood characteristics.

Although this field is comprised of many different theories and definitions, most authorities in this area agreed that reading disorders are prevalent among learning disabled children. Lerner (1976), as an example, documented that "Poor reading skills are the handicap of the greatest number of children in learning disabilities educational programs" (Kirk and Elkins, 1974). In support of this, Hallahan and Kauffman (1978) reported that reading disabilities are probably the most prevalent of all academic problems.

As indicated, most research agreed that reading deficits are common among children labeled "learning disabled." However, exactly how to teach or help these children learn to read is something which literature does not agree upon. Kirk et al. believed that despite the decades of research on reading, its nature is not yet fully understood. Research indicated that there exists no one predominant cause for reading problems, nor is there one predominant approach to teach or remediate reading skills.

To a teacher of the learning disabled, understanding the characteristics of these children and how they relate to reading, is of prime importance, if this child's reading deficits are to be remediated effectively.

Statement of the Problem

Research indicated that only a few studies have been undertaken to specifically investigate the reading processes

that may be characteristic of a learning disabled child (Kirk et al.). Literature also suggested that the lack of progress in reading cannot be due to the child alone, nor to the approach alone, but rather to the match between the approaches utilized and the child's individual characteristics.

To effectively match a reading approach to a learning disabled child, one must be familiar with: (1) the characteristics of a learning disabled child and their relationship to reading, and (2) the advantages and disadvantages of different reading approaches as they are utilized with a learning disabled child.

What are some of the most frequently discussed characteristics of a learning disabled child? How do researchers believe these characteristics relate to reading? What are some of the more commonly used approaches for teaching reading? What are some of the suggested learning characteristics necessary for each of the selected approaches? How would each of these approaches be beneficial to a learning disabled child? Overall, how effective is each selected reading approach as it is used with learning disabled children?

Conducting a review of literature during the Fall Semester of 1978, utilizing the facilities of Northern Arizona University's library, this author will respond to each of these questions as found documented within the literature.

Theoretical Framework

In discussing the selected characteristics of a learning disabled child and how they relate to reading, this author assumed that the child has been properly placed within a setting best suited to meet his individual needs, and is placed in compliance with Public Law 94-142.

The selected characteristics discussed within this research project are divided into three broad categories. They are: (1) Cognitive Abilities; (2) Speech and Language Development; and (3) Behavioral and Emotional-Social Characteristics. This research will show how each of these selected characteristics relate to reading, as reported by researchers in the fields of Reading and Learning Disabilities.

Each of the selected reading approaches will be reviewed (1) in terms of their advantages and disadvantages as used with a learning disabled child, and (2) how effective researchers believe each approach is in helping learning disabled children to read.

The following technical terms, arranged in alphabetical order, are used within this research project:

Auditory acuity: The ability to receive and differentiate auditory stimuli.

Auditory closure: The ability to form an entire word when only part of the word is heard.

Auditory discrimination: The ability to distinguish auditorily between slight differences in sounds.

Auditory memory: The ability to retain and recall general auditory information.

Auditory perception: The ability to interpret or organize the sensory data received through the ear.

Auditory reception: The ability to understand what is said.

Automatic level: The individual's habits of functioning that are less voluntary and more automatic.

Classification: The systematic arrangement into classes.

Cognition: The immediate discovery, awareness, or recognition of information in various forms.

Concept: An abstract idea generalized from particular instances.

Conservation: The recognition that a property such as number, length, or quantity remains the same despite changes in position, shape, or grouping.

Convergent thinking: The selection, retrieval, and synthesis of information to build a single correct solution to a problem.

Disabled Reader: An individual whose general level of reading ability is significantly below expectancy for his age and intelligence.

Distractibility: The tendency to be drawn easily from any task at hand.

Divergent thinking: The transformation, combination, and treatment of details to produce new information that is original; also called creative thinking.

Egocentric thought: The child's belief that everyone thinks the same and thinks of the same ideas.

Equilibration: The process of bringing maturation, experience, and socialization together so as to build and rebuild mental structures.

Expressive language: Language that is spoken or written.

Gestalt: An entity which is more than the sum of its parts.

Haptic: The kinesthetic and tactile modalities.

Hyperactivity: Constant and excessive movement and motor activity.

Impulsivity: Initiation of sudden action without sufficient forethought.

Individualized Reading: A method of teaching reading that utilizes the child's interests.

Inner language: The process of internalizing and organizing experiences without the use of linguistic symbols.

Intuitive thought: Reasons and explanations based upon intuition instead of logic.

Kinesthetic: The sense by which muscular motion, position, and weight are perceived.

Language: Human communicative behavior.

Language-experience Approach: A method of teaching reading and other language skills, based upon the experiences of the child.

Learning Disabilities: Those children who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or environmental, cultural, or economic disadvantage.

Maturation lag: A slowness in certain specialized aspects of neurological development.

Memory: The ability to store and retrieve upon demand previously experienced sensations and perceptions, even when the stimulus that originally evoked them is no longer present.

Modality: The pathways through which an individual receives information and thereby learns.

Perception: The process of organizing or interpreting the raw data obtained through the senses.

Perseveration: The tendency for a specific act of behavior to continue after it is no longer appropriate.

Phonics: The establishment of the sound of the language with the equivalent written symbol.

Programmed Instruction: A method of teaching reading that uses programmed self-instructional and self-corrective materials.

Reading retardation: An individual whose general level of reading ability is significantly below his age and grade norms.

Receptive language: Language that is spoken or written by others and is received by the individual.

Reversibility: The recognition that any change of position, shape, or order can be returned to its original position, shape, or order.

Self-concept: A person's idea or feeling of himself.

Seriation: Structuring of a number of objects on a particular dimension.

Symbolic functioning: Knowing that one object may represent another object.

Syntax: The grammar system of a language.

Tactile: Pertaining to the sense of touch.

Visual acuity: Refers to the sharpness of vision.

Visual closure: Ability to identify a visual stimulus from an incomplete visual presentation.

Visual discrimination: Ability to discern visually similarities and differences.

Visual memory: Ability to recall accurately prior visual experiences.

Visual perception: The identification, organization, and interpretation of sensory data received by the individual through the eye.

Visual reception: Ability to understand what is seen.

Vocabulary: The ability to understand words.

Chapter 2

SELECTED COGNITIVE ABILITIES AND THEIR RELATIONSHIP TO READING

Research clearly showed that reading and cognitive skills are very closely interrelated. Lerner (1976) stated that a parallel exists between reading comprehension skills and cognitive skills. Stauffer (1970) defined reading as cognitive functioning. In discussing cognition, many different areas need consideration. Selected components of cognition and how they relate to reading will be discussed within this chapter.

Concept Formation

Concept Formation is considered to be one of the most important aspects of learning and one of the most frequently noted deficit areas for children with learning disabilities (Parucka, 1976). Lerner (1976) stated that the "Learning of concepts is now regarded as an important objective in all areas of education." In reading, a child must understand the idea or the abstraction that is symbolized by a physical object, picture, or word. Many children with learning disabilities, who experience problems in reading, are often very capable of reading words, but frequently have great difficulty understanding the meaning of these words.

Kaluger and Kolson (1969) believed that concept development is something which continues throughout a person's life, and that, as a child's concepts broaden, his reading will also improve. According to Robeck and Wilson (1974), a child who can easily conceptualize ideas can also easily recall ideas. They further reported that a child "who fails to conceptualize the major ideas in content is severely limited in the ways he can use the material he reads." Kirk, Kliebhan, and Lerner (1978) supported these ideas, stating that concept development is important to word meaning, thus important to reading comprehension.

When discussing the formulation of concepts, it is very difficult to separate concept development and thinking skills. Lerner (1976) stated that, "Concepts are commonly explained as the thinking process." In support of this, Sawyer (1975) wrote that reading is a cognitive or thinking process.

Thinking

Researchers often discuss two types of thinking. They are convergent thinking and divergent thinking (Faas, 1976; Hallahan and Kauffman, 1978; Harris and Sipay, 1977; Kirk, Kliebhan, and Lerner, 1978). Convergent thinking is the ability to draw one conclusion from a number of facts and ideas. Divergent, or creative, thinking is the ability to form many ideas from a single fact or idea. Lerner

(1976) believed that a disturbance in the thinking process is an important factor for many children with learning disabilities. In support of this, Kirk et al. (1978) wrote that, "A disturbance in the thinking process is characteristic of many disabled learners."

Research showed that thinking is a necessary part of reading. Smith et al. (1976) stated that both convergent and divergent thinking are essential to the advancement of learning. This was supported by Kirk et al., who documented that a "cluster of thinking skills is a prerequisite for learning to read." Further evidence of the importance of thinking skills was found in an article written by Lamb and Towner (1975), who believed that children need to use divergent thinking in reading as well as convergent thinking, specifically for reading comprehension.

In reading, a child is either interpreting ideas that are implied or explicitly stated, or he is formulating generalizations and conclusions from the material. Otto (1977) reported that both types of thinking, convergent and divergent, are important and necessary in a total reading program (Chester et al., 1974), specifically in the area of reading comprehension.

Various writers have expressed their views concerning thinking, concept formation, and cognitive abilities. Piaget is one leading researcher who has discussed these ideas in his "Theory of Cognitive Development."

Theory of Piaget and its
Implications for Reading

Piaget viewed concept development as a continuous process that begins at birth (Wadsworth, 1978). He divided development into four broad periods. They are: (1) the sensorimotor period, ages birth to two years; (2) the pre-operational period, ages two to seven years; (3) the period of concrete operations, ages seven to eleven years; and (4) the formal operations period, ages eleven to fifteen years. According to Piaget, these periods are not independent or unrelated, but rather part of a continuous process. The ages specified for each period are only approximate ages at which children will generally demonstrate the abilities that characterize each period. Some children may enter or exit a particular stage earlier or later than the ages specified.

Wadsworth (1978) stated that because of this variation, one cannot always determine a child's conceptual development based solely upon his age. However, the stages of intellectual development do follow each other, not in strictly chronological order, but in a sequential and orderly manner (Kirkland, 1978). Also, according to Wadsworth, once a child has developed the capacity for a certain type of thought process, under normal circumstances he will not lose this capacity.

Both Kirkland (1978) and Charles (1974) reported that a child does not skip stages of development, only that some children enter certain periods at different ages. Piaget explained this, in his belief, that mental development is influenced by four factors, all of which are inter-related (Charles, 1974). They are: (1) maturation, (2) experience, (3) social interaction, and (4) equilibration, a term Charles defined as the process of bringing maturation, experience and socialization together.

Throughout these four stages of development, a child is maturing, interacting, and growing both physically and mentally. Within these four periods, certain thought processes are constantly being developed and modified. Charles identified three important aspects of mental development, as outlined by Piaget. The first of these is called "Intuitive Thought," which occurs during the preoperational stage at about age four.

Prior to the onset of intuitive thought, the child has progressed through the sensorimotor stage and into the preoperational stage. By the end of the sensorimotor period, the child had begun to "think out" simple sensorimotor problems, rather than always doing them by trial and error. Also, prior to intuitive thought, a child's spoken language will have normally been quite developed.

Intuitive thought allows the child to begin to reason and explain ideas based upon intuition. This is also called prelogical thought. Piaget believed that the

child's thought at this stage is "egocentric," and will slowly decrease as the child interacts with his peers. Although the child has reached a certain level of reasoning, he is still unable to explain relationships, understand numbers, or remember rules (Charles, 1974).

Toward the end of the preoperational stage, or just prior to the concrete operations period, the child will be able to perform what Piaget called "conservation" problems. He will also be able to understand the concept of "reversibility." "Conservation" is the ability to recognize that a property, such as a number, length or quantity, remains the same despite its changes in position, shape, or grouping (Charles, 1974). The concept of "reversibility" is knowing that any change of position, order, or shape can be returned to the original position.

Once a child begins to understand these two concepts, the concrete operations stage begins. As stated previously, the stages or periods are interrelated, thus allowing for some overlapping. In some areas of intellectual development, a child may begin to function at the concrete operations period, while in other areas he may still be functioning at the preoperational period. According to Piaget, this is a normal occurrence among children.

During the concrete operations stage, a child is first able to think through problems. This thought is always carried out at the concrete level only. No abstract thinking occurs during this period. According to

Wadsworth (1978), a child at this stage is now able to use logic to draw conclusions for most concrete problems. Throughout the preoperational period, perception dominated the child's thought. At the concrete stage, logic, not perception, dominates his thought. A major characteristic of the concrete stage is the child's ability to "carry out operations mentally" (Charles, 1974). Thus, the child is able to sequence ideas mentally and begin to explore several different ways to find a solution to a problem. However, as indicated, all thinking is done at a concrete level.

Abstract thinking onsets the fourth stage called the "formal operations stage." During this period, children are able to form theories, solve verbal problems, and think in abstractions. It is at this period that full logical thinking is developed, both at a concrete and abstract level.

Research revealed that very little information was available concerning Piaget's theory and its relationship to reading. Waller (1977), for example, wrote that minimal publication of Piaget's theory and reading existed in literature. Research that has been undertaken in this area was concerned primarily with the relationship between reading and certain tasks performed during the preoperational and concrete stages. In a review of literature, Waller (1977) discussed various Piagetian tasks and their relationship to reading. The selected tasks that Waller considered included: symbolic functioning, conservation, classification, and seriation.

Symbolic functioning, which is developed during the preoperational period, is the ability to recognize that one object may represent another object. In reading, a child needs the ability to understand what written symbols represent. Waller found through his research that a positive relationship existed between reading and symbolic functioning. Wadsworth (1978) supported this research, stating that reading activities require an understanding of the use of written or graphic materials.

Conservation, as previously indicated, is the ability to recognize that a property remains the same despite its change in position. This ability is developed at the onset of the concrete operations period. A slight but positive relationship was found between conserving abilities and reading ability (Waller, 1977).

Classification, also developed during the concrete operations stage, is the ability to perform and recognize various grouping situations. An example of a classification ability in reading is knowing that a letter of the alphabet may also be classified as a vowel or consonant, in addition to being called a letter. Research again indicated a slight but positive relationship between classification and reading ability (Waller, 1977).

Waller also found in his review of literature that a positive relationship existed between seriation abilities and reading. Seriation is important to understand the order of letters in words and of word order within a sentence.

Seriation is also developed during the concrete operations stage and was found to have had the highest relationship to reading of the four tasks reviewed.

Based upon his research, Waller formulated a number of conclusions and hypotheses. He concluded that a positive relationship exists between certain concrete operations tasks and reading ability. He believed that "conservers are better readers and that seriation appears to be highly related to reading performance." He also stated that the hypothesis, which some researchers believe, concerning concrete operations skills as necessary prerequisites for reading, cannot be rejected or accepted at this time because of the limited number of studies in this area (Waller, 1977).

Waller also found no empirical evidence relating to reading and the formal operations period. However, he hypothesized that the most obvious relationship is with reading comprehension, due to the ability to think abstractly, which is developed during this period. He further hypothesized that, "Reading should be taught and patterned to follow the natural progress of operational thought."

Wadsworth (1978) believed that Piaget's theory of development has some definite implications in the area of reading.

As previously documented, children proceed through each of the four stages at their own rate. As outlined, certain skills may be expected of children at certain times,

while others may not. According to Wadsworth, for reading instruction to be consistent with these ideas, children should be actively involved in reading; children should discover on their own that written symbols represent ideas, and all reading should be learned on an individualized basis.

He documented:

(1) Permit the child to break the reading code; (2) permit the child to deal only with words that are meaningful to him; (3) permit the child to engage spontaneously the problems of reading; and (4) individualize in every sense of the word.

Wadsworth further stated that a child will break the reading code independently if given sufficient motivation, assuming he has the prerequisite cognitive skills. He also suggested that teaching decoding skills may interfere with the child's own individual progress and style of learning.

With regard to concept formation and thinking, Piaget believed that concepts evolve, and in learning to read, the child must have a concept of the object that is written about. He also believed that thinking is important and a prerequisite for reading (Waller, 1977).

According to Wadsworth (1978), "A child's level of conceptual development places certain constraints on whether he or she can read." Furch (1970) wrote, "When a child shows interest in reading, he's probably ready to discover coding rules." Wadsworth stated that using the child's everyday vocabulary is the most meaningful way to help a child learn to read. Piaget believed that

motivation to read is of prime importance and that children strive to, and resolve, what "they" feel is a problem.

Perception and Memory

Perception is the mechanism by which the intellect recognizes and makes sense out of sensory stimulation (Lerner, 1976). Perception is considered by many researchers to be a learned skill. Various writers also expressed their belief that children with learning disabilities who experience problems in reading, do so because of problems in perception (Gilliland, 1974; Hallahan and Kauffman, 1978; Kaluger and Kolson, 1969; Kirk et al., 1978; Myers and Hammill, 1976).

Perceptual abilities are commonly divided into the areas of visual perception and auditory perception. Review of research undertaken by this author, indicated that the area of visual perception has been widely explored, where the area of auditory perception has received less attention. Lerner (1976) stated that the auditory modality as a pathway of learning has been relatively neglected by researchers, and that much has been done in the area of visual perception. Schubert (1975) supported this, writing that, "We have only the beginning of a theory about auditory perception," and that the "theory of visual perception has a long tradition."

The areas of auditory perception and visual perception are composed of a number of interrelated subabilities. The extent to which these subabilities relate to reading difficulties is controversial. Research indicated that when viewing the total components of auditory and visual perception as a whole, they do relate to reading. Kirk et al. (1978) stated that children with a deficit in auditory perception often have a difficulty learning phonics skills. Lerner (1976) wrote that visual perception plays a significant role in school learning, particularly reading. Others, such as Robinson (1972), believed that there exists an "increasing accumulation of evidence that auditory perception plays an important role in learning to read."

Some writers, however, do not believe that the evidence of these relationships is very clear. Spache (1976), for example, documented that auditory perception abilities are closely related to each other, but that, "There has not been great success in showing that these subabilities have a major effect upon reading." Ekwall (1973) stated that auditory and visual perception exert a major influence on reading, disagreeing with the views of Spache.

Concomitant with perceptual abilities or disabilities is the area of memory. Research showed that it is difficult to consider or isolate a memory problem without considering other areas of perception. Myers and Hammill (1976) wrote that disorders of memory may be associated with visual, auditory, or other learning processes. Memory

problems may be related to a deficit in a perceptual modality, thus causing apparent visual or auditory memory problems. Memory comprises an interrelated set of psychological processes (Calfee, 1975). According to Calfee (1975) and Myers and Hammill (1976), attention and ability to retrieve information are important correlates of both long- and short-term memory abilities. Harris and Sipay (1977) supported this research, stating that many times a child who appears to have poor memory may not have the perceptual ability to properly perceive a word.

Research indicated that both long- and short-term memory skills are related to reading achievement, despite the difficulties in isolating memory abilities from other perceptual abilities. Robeck and Wilson (1974) found that memory or recall skills are necessary for successful reading. They further stated that poor readers tended to be low in the ability of short-term memory. Calfee (1975) believed that short-term memory is vital to the understanding of a sentence. Others suggested that children with learning disabilities frequently have difficulty recalling what things looked like or sounded like (Kirk et al., 1978; Lerner, 1976). These writers also stated that these children cannot remember oral vocabulary or written words. Harris and Sipay (1977) reported that both long- and short-term memory are important in reading, but that long-term memory is much more important. In reading, a child needs to remember what words looked like and sounded like, and

needs to remember directions and explanations, whether visual or auditory.

Selected Visual Perception Abilities

As previously indicated, the area of visual perception includes a number of different subabilities. Research indicated that, in relation to reading, some of the most frequently discussed abilities include: visual acuity, visual reception, visual discrimination, visual closure, and visual memory (Gilliland, 1974; Harris and Sipay, 1977; Kirk and Kirk, 1975; Kirk, Kliebhan, and Lerner, 1978; Lerner, 1976; Lombardi and Lombardi, 1977; Myers and Hammill, 1976; Spache, 1976).

Visual Acuity

Prerequisite to any type of visual learning is the child's ability to see clearly. Research showed that the relationship between visual defects and reading is still very unclear. Concerning this relationship, Harris and Sipay (1977) stated that, "Research reveals a lack of agreement." Investigations do not agree whether visual defects cause reading disabilities or simply aggravate an already existing problem. Lerner (1976) wrote that literature discussing the relationship between visual defects and reading problems is contradictory. She further stated that many visual deficiencies occurring in cases of reading retardation can be considered nothing more than coincidental.

Harris and Sipay (1977) believed that some children are able to efficiently compensate for visual acuity defects, providing these defects are not too serious. Spache (1976) cited various researchers who found insignificant differences of visual acuity among good and poor readers. He also reported that the relationship between visual acuity and reading is inconclusive at this time. However, as Kirk et al. (1978) indicated, despite contradictory evidence, visual defects should be detected and corrected, if possible, before attempts are made to teach a child to read.

Visual Reception

Visual reception is the ability to receive and associate stimuli through the field of vision. Lombardi and Lombardi (1977) described this as "the ability to understand what is seen." They also stated that it is a skill that is considered to be the basis of other visual skills. Kirk and Kirk (1975) defined visual reception as the ability to gain meaning from visual symbols.

Children with visual reception problems may have difficulty organizing parts into a whole or in attaching meaning to the visual symbols. Kirk et al. (1978) wrote that some children with poor visual reception find it difficult to translate visual symbols into meaning or to grasp the meaning of pictures and words. Myers and Hammill (1976) stated that children who experience visual reception difficulties will often subvocalize in reading and will read with very little comprehension.

Visual Discrimination

Closely related to visual reception is visual discrimination, both of which are considered deficient in learning disabled children. In relation to reading, visual discrimination is the ability to recognize the likenesses and differences between letters and words. Gilliland (1974) wrote that, "Many children with learning disabilities do not notice these differences."

Harris and Sipay (1977) stated that visual discrimination is necessary to analyze a whole into its parts and to synthesize them back again. According to Lerner (1976), visual discrimination is a necessary skill essential in learning to read. Kirk et al. (1978) supported this statement, writing that a deficit or disability of visual discrimination is viewed by many authorities as one of the most important causes of a reading disability.

Since reading is a visual process, the ability to discriminate small differences between words is essential. Robeck and Wilson (1974) stated that much of the "mechanical process in learning to read is based upon learning the essential discriminations." Kirk et al. (1978) also supported this statement in their research, writing that, "To read, a child must be able to visually discriminate the differences between letters and words."

Visual Closure

Children with learning disabilities often experience difficulty with the perceptual skill of visual closure. Kirk et al. (1978) wrote that visual closure will supply the gestalt or wholeness to a word. Harris and Sipay (1977) reported that visual closure is necessary in reading "to get the correct meaning of a sentence in which all words are not recognized." When a child is unable to correctly pronounce or understand the meaning of a word within a sentence, visual closure is one ability utilized to discover the meaning or pronunciation of that word.

Faas (1976) documented that children who have visual closure deficits, may have difficulty filling in a word within a sentence when a blank is used in place of the omitted word. These children may also have problems in closing spaces or blending letters within words. Lombardi and Lombardi (1977) believed that visual closure is necessary for fluency and speed in reading; otherwise, a word-by-word reader will result.

Visual Memory

Kirk et al. (1978) believed that visual memory has long been associated with reading ability. Samuels (1973) wrote that research on visual memory and reading indicated that poor reading is associated with inferior visual memory. Harris and Sipay (1977), Lerner (1976) and Lombardi and Lombardi (1977) all agreed that visual memory problems are related to reading disabilities.

In reading a child must retain a visual memory of letters and words (Kirk et al., 1978). According to Harris and Sipay (1977), poor visual memory will be exhibited in the child's inability to sequence letters, numbers, or words. Lombardi and Lombardi (1977) supported this statement, writing that a child must recall the sequential order of letters within a word while reading.

Goyen and Lyle (1973) did not believe that a conclusive relationship has been established between visual memory and reading. They stated that previous studies of visual memory in retarded readers have yielded conflicting results. Guthrie and Goldberg (1972), however, do believe that they established a relationship between visual memory and reading, stating that a reading disability may derive from the lack of different visual memory functions which are required for reading.

Selected Auditory Perception Abilities

As previously indicated, auditory perception consists of many different subabilities. The abilities most frequently found in research include auditory acuity, reception, discrimination, closure, and memory (Gilliland, 1974; Harris and Sipay, 1977; Kirk and Kirk, 1975; Kirk, Kliebhan and Lerner, 1978; Lerner, 1976; Lombardi and Lombardi, 1977; Myers and Hammill, 1976; Spache, 1976).

Auditory Acuity

Auditory acuity is the ability to hear clearly. Research indicated that some writers believed that a relationship between auditory acuity and reading does exist. Lerner (1976) wrote that the ability to hear sounds and language is a crucial factor in learning. Spache (1976) suggested that certain losses in acuity may affect a child's ability to hear consonant sounds where vowel sounds are clearly audible. Carter and McGinnis (1970) also believed that auditory acuity is related to reading achievement. Kirk et al. (1978) supported these researchers, stating that a marked hearing loss is associated with reading retardation.

Although some writers have found a relationship between auditory acuity and reading, research indicated that others have not. Gilliland (1974), for example, stated that, "A slight hearing loss does not necessarily cause a difficulty in learning to read." He believed that a child is able to compensate for his slight hearing loss. Harris and Sipay (1977) wrote that a clear-cut relationship between hearing impairment and reading difficulties has not been documented.

However, Spache (1976) further stated that these children hear words in a muffled, indistinct fashion and tend to fail in the primary grades.

Auditory Reception

An auditory reception problem is another characteristic commonly found among learning disabled children. Auditory reception is the ability to gain meaning from auditory symbols. Lombardi and Lombardi (1977) stated that if a child has problems in auditory reception, his verbal communication will be adversely affected. They further wrote that this type of child will have difficulty following verbal directions and will depend upon visual cues in learning. Kirk et al. (1978) supported these findings, stating that a child with auditory reception deficits will have difficulty deriving meaning from spoken language. Faas (1976) was also found to have supported this research, writing that children who experience auditory reception problems may have difficulty in following directions, attaching meaning to words, and in discriminating between auditory sounds.

Auditory Discrimination

Auditory discrimination is another subability which has been researched by many writers. Auditory discrimination is the ability to distinguish slight differences in sounds (Faas, 1976). Determining if a deficit is purely a discrimination problem and not a combination of deficits, is discussed in some literature. An auditory discrimination problem could be attributed to deficiencies in cognitive development or in attention (Samuels, 1973; Spache, 1976). These two writers further stated that the definition of

auditory discrimination can be interpreted many different ways, and that many studies have been undertaken that show little correlation between reading achievement and auditory discrimination skills. However, Spache (1976) did emphasize the importance of auditory discrimination in relation to other auditory subskills. Other writers, such as Barr (1976) found that auditory discrimination is important in intersensory integration. Hammill and Larsen (1974), in a study they undertook, found a very little relationship between auditory discrimination and reading. Groff (1975) wrote that he found lack of agreement in the relationship between auditory discrimination and reading.

Research also indicated, however, that some writers have found a relationship between auditory discrimination and reading. Faas (1976), for example, stated that Chalfant and Scheffelin (1969) believed that, if a child is unable to hear differences and similarities in initial and final sounds of words or blends, they will have difficulty acquiring and using spoken language. Kirk et al. (1978) wrote that it is necessary for a child to discriminate between words and sounds if he is to learn to read by oral methods. Robinson (1972) stated that, "Auditory discrimination made a significant contribution to reading achievement." Carter and McGinnis (1970) cited Monroe (1932) as stating that auditory discrimination is related to a reading disability.

Other authors, such as Robeck and Wilson (1974), wrote that auditory discrimination is necessary to hear

differences among phonemes and beginning and ending sounds in words. Lerner (1976) supported this statement, writing that one important factor in reading is the ability to recognize phoneme sounds of our language, and that, without this skill, phonics would be impossible.

Auditory Closure

Research indicated that various writers (Elkins, 1972; Faas, 1976; Kirk and Kirk, 1975; Kirk et al., 1978; Lombardi and Lombardi, 1977) have investigated the relationship between auditory closure abilities and reading.

Kirk et al. (1978) wrote that Elkins (1972) believed auditory closure abilities are exhibited more in the first to third grades, and that this ability appeared to correlate with reading success. Auditory closure is the ability to produce a word by completing the missing parts. Lombardi and Lombardi (1977) stated that this ability is important and necessary for word attack skills, particularly when sounding words out. Kirk and Kirk (1975) supported this statement, writing that a child with auditory closure deficits may have difficulty synthesizing isolated sounds into words. This child would also have difficulty articulating whole words, but not individual letters.

Faas (1976) reported that auditory closure is necessary to attend to auditory stimuli, and that a child who is deficient in this area may omit words or parts of words when reading. Auditory closure and sound blending are considered to be closely related (Kirk and Kirk, 1975).

Auditory Memory

Poor auditory memory is an area which is recognized by some researchers as a characteristic of learning disabled children (Carter and McGinnis, 1970; Gilliland, 1974; Hallahan and Kauffman, 1978; Kirk et al., 1978).

Children with poor auditory memory abilities may have difficulty remembering or recalling auditory sounds or experiences. Kirk et al. (1978) believed that children who have a deficit in short term auditory memory may have difficulty imitating words or sentences. Gilliland (1974) suggested that these children have difficulty remembering names and need to be taught reading through a visual approach.

A child must retain sound sequences within words and words within sentences if he is to learn to read. Lerner (1976) believed that the ability to sequence letters and numbers, when given orally, is often difficult for some learning disabled children who experience poor auditory memory skills.

Research indicated that some studies have been undertaken attempting to establish a relationship between auditory memory and reading. Carter and McGinnis (1970), for example, suggested that auditory memory is probably significantly related to learning to read. Richie and Aten (1976) found that children with reading disabilities also had a disability in the retention of auditory verbal sequential stimuli. Others, such as Barr (1976), believed

that auditory memory is essential for language development. This statement is supported by Ring (1976), who wrote that, "Auditory memory is an essential element in the acquisition of language competence."

However, researchers Hammill and Larsen (1974) found very little relationship between auditory memory and reading. They state that auditory memory is "not sufficiently related to reading to be particularly useful for school practice."

Central Processing and Reading

A recent definition of a specific learning disability stated that it is a condition in which a child exhibits a disorder in one or more of the basic psychological processes involved in understanding or in using language spoken or written (Public Law 94-142, 1975). A psychological process has been defined as the way information is received and learned (Lerner, 1976). Each of the pathways, according to Lerner, that information is received through is called a "perceptual modality." Visual, auditory, tactile and kinesthetic, also called haptic, are four perceptual modalities through which a child receives information (Carter and McGinnis, 1970; Hallahan and Kauffman, 1978; Haring, 1978; Harris and Sipay, 1977; Kirk et al., 1978; Lerner, 1976; Spache, 1976).

According to Lerner (1976), children appear to have one optimal method for learning. Research showed that some

writers have attempted to correlate a reading difficulty with a processing difficulty. In attempting to determine this correlation, various researchers have studied the relationship between reading achievement and (1) processing training, (2) the preferred modality approach, and (3) the combined modality approach. Kirk et al. (1978) concluded from a review of research that, "Findings are conflicting on the relationship between processing dysfunction and reading." They also stated, however, that a limited amount of research has been conducted on these three approaches.

Process Training

Process training is the strengthening of a deficit modality through a separate program designed solely to train that modality. The theory contends that once the weak modality is strengthened, the child will be capable of learning to read (Kirk et al., 1978).

Hallahan and Kauffman (1978) stated that very little, if any, solid research evidence exists to support the use of process training. Supporting this statement is Kirk et al. (1978), who wrote that, "Visual and auditory process training does not enhance the ability to read." They further reported that the efficacy of the process training approach for teaching disabled learners has been questioned seriously in recent studies.

One such study that supported these authors was undertaken by Hammill and Larsen (1974). They found that

the results of process training in auditory-visual integration did not sufficiently relate to reading.

Preferred Modality Approach

The second, and apparently the most widely investigated approach, is the "preferred modality approach." The theory of this method is to determine the child's strongest modality and establish a reading program compatible with this pathway.

Harris and Sipay (1977) and Lerner (1976) believed that teaching toward a particular modality does not increase reading achievement. Harris and Sipay further stated that, "Matching visual and auditory modality preference to reading methods does not result in better achievement." Spache (1976), in his work, has supported these authors, stating that research concerning teaching toward a particular modality is, at this time, inconclusive.

Recently a number of studies have been undertaken attempting to correlate this approach with reading achievement. Robinson (1972) found that the effect of modality preference on reading achievement is unclear at this time. Reference was made concerning the efficacy of developing educational activities, designed to strengthen different sensory processes (Vellutino, Steger et al., 1977). These writers found that research provided little evidence supporting the justification of such activities.

Review of research by Tarver and Dawson (1978) showed that in thirteen of fifteen studies reviewed, no significant interaction existed between teaching methods and modality preference in reading achievement. Kirk et al. (1978) supported the findings of these researchers, stating, "The degree to which children can master reading through the use of their preferred modalities has not been determined."

Combined Modality Approach

The theory of this approach is to teach toward the strongest modality concomitant with strengthening the deficit area. Thus, both the strong and weak modalities are considered at the same time.

According to Kirk et al. (1978), little or no research has been reported on the combined approach. They believed that this is partially due to the difficulty in isolating selected variables to be tested. Spache (1976) wrote that a "Multimodal approach is not generally superior in producing learning." We further stated that the results of research showed contradictions concerning this approach and reading achievement.

The combined approach utilizes the haptic modality. Lerner (1976) stated that little information was available on the haptic modality, but it appears to be important in learning. Harris and Sipay (1977) documented that an image reinforced through tactile and kinesthetic touch may improve long term retention. Ekwall (1973) supported these authors

writing that the haptic modality appears to be a correlate of reading development.

Despite the lack of conclusive evidence, several writers have expressed their views concerning processes and reading. Harris and Sipay (1977), for example, believed that reading requires the building of an association between auditory perception and visual perception. They wrote that audiovisual integration is significantly related to reading, and that auditory blending and visual closure are two very important kinds of integrative activities necessary for reading. Lamb and Towner (1975) supported Harris and Sipay, stating that, "Children need to use visual and nonvisual information to predict and anticipate meanings of stories."

Other authors, such as Robinson (1972), believed that if a task requires auditory perception, then we must teach toward the auditory modality whether it be strong or weak. Ekwall (1973) wrote that research was inconclusive as to which modality is most important in learning to read, but stated, "To be successful he must develop normally in the visual and auditory areas."

Chapter 3

SELECTED ELEMENTS OF SPEECH AND LANGUAGE DEVELOPMENT

One of the most important tools a child develops is the ability to use language. Any activity of listening, speaking, reading, or writing has language and its proper development at its roots. Greene and Petty (1972) described language as, "The fundamental means by which ideas, thoughts, feelings, and emotions are communicated." Lerner (1976) wrote that without language, there appears to be nothing like explicit thought (Langer, 1958).

Researchers agreed that language is a very important form of communication and that language disorders are common among learning disabled children. Lerner (1976), for example, stated that the "greatest prevalence of learning disabilities are those in which language is involved." Recent literature indicated that most writers also agreed that language development is important in the acquisition of reading. Spache (1976), as an example, found that various authors believed that language development is the most important element in the success of reading. Kirk et al. (1978) supported these writers, stating that, "Speech and language are obvious prerequisites for learning to read."

Precisely how language develops or occurs is subject to great debate (Spache, 1976). He cited Athey (1971), who offered three possible theories concerning language development. Some writers believed that language is acquired through imitation. Others contended that the development of language is a gradual process, based upon concept acquisition and generalizations. Still others, such as Piaget, believed in the sequential development of language, based upon maturation and experience. In reaction to these theories, Spache (1976) reported that all related language and thought together, and all recognized the importance of experiences in language development. With reference to the development of language in learning disabled children, Lerner (1976) wrote that children with learning disabilities often do not follow a normal pattern of language development.

Within the field of Learning Disabilities, some authors have written that children with language problems often experience disorders in either: inner language, receptive language, or expressive language (Faas, 1976; Hallahan and Kauffman, 1978; Lerner, 1976). Included within this chapter is a discussion of these three types of language, vocabulary development, and selected language disorders.

Inner Language

Wharry (1975) stated that inner language is that way in which a child perceives his environment, organizes

concepts, and formulates ideas. Wallace and Kauffman (1973) believed that a child needs inner language to use the skills needed in the logical thinking process. Other authors such as Johnson and Myklebust (1967) documented that inner language is the language we use to think. In their writing, Myers and Hammill (1976) wrote that, "Inner language permits the transformation of experiences into verbal or non-verbal symbols."

Most of these researchers believed that the development of inner language is a preliminary stage to the acquisition of receptive and expressive language. Because of this belief, some authors wrote that a disorder at this level is very serious (Lerner, 1976; Myklebust, 1964). Lerner also stated that a disorder at this level referred to the inability to assimilate experiences. This statement is supported by Wallace and Larsen (1978), who reported that through inner language a child establishes the necessary linguistic competence to master reading. These authors also wrote that if "linguistic competence is not attained, progress in academically related tasks most certainly will be negatively affected." Myklebust (1964) supported these ideas in his writings, stating that inner language is basic to the development of all of the verbal systems.

Receptive Language

Following the development of inner language, receptive language emerges (Myklebust, 1964). Myers and Hammill

(1976) wrote that receptive language and inner language are dependent upon each other and work in an integrative manner.

According to Lerner (1976), receptive language is the process of understanding verbal symbols. Myklebust (1964) and Wharry (1975) believed that receptive language is the language a person hears and understands. Faas (1976) supported these authors, stating that proficiency in the use of receptive language will allow a child to respond appropriately to verbal commands, instructions, explanations, and questions.

Receptive language disorders are discussed in some of the literature concerned with the learning disabled child (Faas, 1976; Hallahan and Kauffman, 1978; Kirk et al., 1978; Lerner, 1976; Myklebust, 1964; Wallace and Larsen, 1978). In support of these authors, Semel and Wiig (1975) found receptive language disorders to be prevalent in learning disabled children.

In relation to reading, Lerner (1976) believed that a child with this type of disorder may be unable to blend isolated letters together or to discriminate small word parts within a sentence. She further wrote that children with a receptive language disorder may understand single isolated words, but will be unable to comprehend a sentence using those same words. Chappell (1972) supported Lerner, writing that some children with this type of a disorder may have difficulty understanding word relationships, thus using the wrong word in context. Vogel (1974) found that

receptive language played an important part in the ability to repeat a sentence when given verbally. Also, Hallahan and Kauffman (1978) and Kaliski (1977) wrote that a receptive language disorder is the inability to comprehend spoken language.

Expressive Language

Expressive language abilities begin to become observable when a child starts to talk. Wharry (1975) wrote that expressive language includes the ability to express ideas, to articulate with accuracy, and to use correct usage of vocabulary, grammar, and sentence structure. Faas (1976), in his literature, stated that expressive language abilities permit a child to produce appropriate verbal responses. Myklebust (1964) agreed with these authors, writing that, "Expressive language is using the spoken word to relate experiences to others."

In relation to the learning disabled child, research indicated that many of these children do experience expressive language disorders (Faas, 1976; Hallahan and Kauffman, 1978; Kirk et al., 1978; Lerner, 1976; Semel and Wiig, 1975, 1975a). Results from two studies completed by Semel and Wiig reported that often expressive language disabilities are subtle and frequently overlooked, and that some learning disabled children did experience expressive language disorders.

A child with this type of deficit may be able to understand speech and language, but will have poor skill in speaking. This type of child may also have difficulty in formulating sentences, may substitute words while reading, and may be unable to produce sounds of words or letters (Lerner, 1976).

Very little research has been concerned with the subject of expressive and receptive language (Hallahan and Kauffman, 1978). These authors also stated that, despite this lack of information, many researchers that discuss these areas agreed that receptive and expressive language are closely interwoven. Myers and Hammill (1976), for example, believed that expressive language reflects to a great extent the adequacy of a child's receptive abilities. Kaliski (1977) wrote that reading does require the capacity of both receptive and expressive language abilities.

Research also indicated that it is often difficult to separate language abilities from mental functioning (Faas, 1976; Kleffner, 1973). Kleffner wrote that language becomes a part of the cognitive strategy of the child. He further stated that language "serves the intellect." Myklebust (1964) supported this author, writing that "many investigators have reported a correlation between intelligence and language capacities."

Vocabulary Development

Research clearly showed that a high relationship exists between vocabulary knowledge and reading (Harris and Sipay, 1977; Utsey, 1968). Karlin (1968) supported this idea, writing that, in all probability, an inadequate vocabulary is the greatest single cause for failure to read. These authors are further supported by Griesse (1977), who suggested that, "A reader must bring an adequate vocabulary to his reading." Researchers, such as Harris and Sipay, (1977), believed that the development of a reading vocabulary is preceeded by the development of two other vocabularies. They are listening vocabulary, followed by the spoken vocabulary.

Listening Vocabulary

A listening vocabulary is composed of those words which a child knows and understands when they are heard. In building a listening vocabulary, a child must select appropriate meanings and arrange ideas according to their relationships. Important throughout the normal development of a listening vocabulary is the child's ability to remember and retain certain phoneme sounds (Lerner, 1976). Since this type of vocabulary is built solely upon listening, the child's ability to listen heavily influences the adequate development of this vocabulary. Some learning disabled children experience problems in their listening abilities

(Kirk et al., 1978; Lerner, 1976). Lerner further wrote that listening is the foundation of all language growth, and that a child who has a deficit in listening skills has a handicap in all the communication skills.

In relation to reading, Greene and Petty (1972) reported that "reading and listening are positively related," and that to understand speech is essential before a child can learn to read. Vogel (1975) supported this, stating that one of the most important prerequisites for reading comprehension is the ability to understand the meaning of individual words. As previously mentioned, the listening vocabulary, once developed, is followed by the development of speech.

Speaking Vocabulary

There exists a very close relationship between a child's listening vocabulary and his speaking vocabulary. The importance and extent of the listening vocabulary is shown in the child's ability to speak.

The speaking vocabulary is that vocabulary which children are able to use effectively and appropriately in speech. A person's speaking vocabulary is much smaller than his listening vocabulary (Harris and Sipay, 1977). With reference to the learning disabled, Lerner (1976) believed that some children with language disorders have an extremely limited speaking vocabulary.

Various authors have expressed their views concerning the relationship between reading and the spoken vocabulary. Bougere (1968), for example, wrote that reading is an extension of the child's previously achieved and still developing skills in oral language. In discussing phonics, Durkin (1974) reported that the usefulness of being able to sound a new word depends on the state of the reader's speaking vocabulary (Brown, 1958).

Other writers, such as Harris and Sipay (1977), wrote that, "Adequate mastery of spoken language is important for progress in reading." Semel and Wiig (1975a) supported this statement, suggesting that successful acquisition of reading depends upon adequate oral language. Greene and Petty (1972) wrote that reading performance varies significantly with proficiency in oral language. They further reported that the ability to speak with some assurance is essential before a child can learn to read.

Language Deficits

Literature indicated that language disorders are related to reading disorders. According to Vogel (1975), many children who have difficulty in reading suffer from underlying language disorders. Kirk et al. (1978) supported this, writing that, "Language disorders are to some degree related to reading problems." In discussing a different view of language deficits, Chappell (1972) believed that

language problems are interrelated with thinking and conceptual disorders. Within the field of learning disabilities, disorders of syntax and maturational lag are two language deficits some authors considered characteristic of learning disabled children (Hallahan and Kauffman, 1978; Kirk et al., 1978; Vogel, 1975).

Disorders of Syntax

Syntax refers to the way words are put together within a sentence. Vogel (1974) found that children with reading disabilities were deficient in syntactic abilities. Semel and Wiig (1975a) reported that, "Learning disabled children have deficits in oral syntax." A possible explanation for this deficit, as given by Lerner (1976), is that children with a syntactic disorder may not have learned how to order words within a sentence. Whatever the cause, if a child is unaccustomed to syntactic sentence structure, he may have difficulty in the area of comprehension (Harris and Sipay, 1977).

In reading, a child with a syntax disorder may omit or rearrange words within a sentence. Myers and Hammill (1976) wrote that if a child does not exhibit the linguistic structures underlying word order, he will have difficulty in comprehension and expression of language. In a study concerning syntax and reading, Vogel (1975) found that, "Syntactic competence of the reader is an important factor in reading comprehension." She also found that syntax abilities

were necessary to repeat a sentence when given orally (Vogel, 1974).

Maturational Lag

When discussing reading and learning disabilities, the concept of maturational lag (Bender, 1957) is often considered within the literature (Faas, 1976; Glasser, 1974; Harris and Sipay, 1977; Kirk et al., 1978; Lerner, 1976). Kirk et al. reported that children may lag in the maturation of certain specific processes that may affect learning to read. They further stated that, "Many disabled learners do exhibit a slowness in the development of certain skills." In support of this, Faas (1976) documented that children who exhibited lags in maturation failed to reach the anticipated points in their patterns of maturation, which are required for learning to read (Slingerland, 1971). Lerner (1976), in her research, found that the concept of maturational lag was supported through different studies undertaken by Koppitz (1973), Silver and Hagin (1966), and Wepman (1967).

Karlin (1971) wrote that the development of reading is a continuous growth process, each step leading to a logical next step. The underlying assumption concerning the theory of maturational lag is that given sufficient time a normal level of functioning will ultimately be achieved (Harris and Sipay, 1977). In relation to reading, what is sometimes thought to be a learning problem may prove to be a lag in the development of necessary skills. Glasser

(1974) wrote that reading readiness and speech and language development may vary greatly from child to child, without being abnormally delayed or accelerated. Sawyer (1975) supported this, writing that it is unlikely that all children are cognitively ready to profit from some of the typical programs for beginning instruction.

However, as Lerner (1976) cautioned, a maturational lag in a specific area of development may be a cause of poor academic achievement, and that a child's different stages of maturation need consideration when attempting to help a child to read.

Chapter 4

SELECTED BEHAVIORAL AND EMOTIONAL-SOCIAL CHARACTERISTICS AND THEIR RELATIONSHIP TO READING

When considering a learning disabled child, most literature included some discussion of certain behavioral and emotional-social traits. Among the many observable symptoms, attention deficits, hyperactivity, distractibility, impulsivity, perseveration, poor self-concept, and poor peer relationships are seven characteristics most frequently attributed to a learning disabled child (Gilliland, 1974; Hallahan and Kauffman, 1978; Haring, 1978; Kirk et al., 1978).

Authors in the fields of Learning Disabilities and Reading frequently discuss these symptoms, not as single entities, but as interrelated problems. Both this author's experiences and this research indicated that many times it is difficult to determine if one symptom is an outcome of another or if a characteristic exists totally independent of the others.

This chapter will discuss each of the seven individual traits within the two separate categories as previously outlined. However, the reader should consider that many times these characteristics do overlap.

Behavior Characteristics

The most frequently observed behaviors in learning disabled children include: attention deficits, hyperactivity, distractibility, impulsivity, and perseveration. As previously stated, these characteristics are frequently discussed as interrelated factors. Dykman et al. (1971), for example, wrote that the inability to pay attention, with accompanying distractibility and impulsivity, is the central problem of the learning disabled child. In the writings of Hallahan and Kauffman (1978), attention and hyperactivity are concomitantly discussed. Keogh and Margolis (1976) reported that attention problems consisted of different aspects. In support of these authors, Cruickshank and Paul (1971) stated that, "Many of these characteristics can be thought of as interrelated in some way."

Although each of these symptoms appear to be related, some authorities have attempted to isolate and discuss each, with the understanding that they may be interwoven.

Attention Deficits

The ability to attend, according to Harris and Sipay (1977), means that a person is able to maintain focus on particular stimuli and disregard or suppress other stimulation that reaches him at the same time. According to Kirk et al. (1978), disabled learners often have attentional deficits. They further stated that these children are unable to concentrate on a task for an extended period of

time. Tarver and Hallahan (1974) reported that children with learning disabilities are deficient in their ability to maintain attention over a prolonged period of time. Agreeing with these authors is Bryan (1974), who maintained that "learning disabled children may have a generalized attention deficit," and that these children spent little time engaged in attending behavior. Doyle (1976) believed that an attentional deficit is the differentiating factor between children who are learning disabled and those who are not. Also, Hallahan and Kauffman (1978) cited a number of researchers who reported that both auditory and visual attention deficits exist among learning disabled children.

Many writers believed that the ability to attend is a necessary characteristic in learning. Allington (1975), for example, wrote that "attention is essential in learning." Harris and Sipay (1977) documented that the ability to attend is basic to efficiency in learning. In agreement with these authors are Robeck and Wilson (1974), who stated that attention is the basis of learning. Eisenberg (1975) believed that short attention span is a major symptom that interferes with effective learning. In a recent study, Wiener (1978) found that children with language disabilities frequently had problems with attention.

In relation to reading, Sartain (1976) wrote that the inability to attend is a correlate of a reading disability, not a cause. Kirk et al. (1978) supported this statement, citing various authors who believed that a

deficit in attention has been identified as one of the correlates that highly relates to difficulties in learning to read. Pelham (1977), in his study, found that poor readers had difficulty in information processing which limited their attentional capacity rather than their ability to attend selectively.

Expressing a different view, Keogh and Margolis (1974) reported that there exists limited theory and evidence to clarify the confused relationship between attentional problems and learning failure. However, they did believe that problems of attention are important when considering the failures of school aged children.

In discussing good and poor readers, Allington (1975) found that good readers knew how to search and where to focus attention, while poor readers apparently did not. Also, that poor readers appeared to attend to general configurations, while good readers attended to significant details. Samuels (1973) concluded from his research that the correlate of attention is related to learning, and that a positive relationship exists between attention and achievement.

Hyperactivity

Hyperactivity is one of the most frequently mentioned characteristics of learning disabled children (Hallahan and Kauffman, 1978) and one of the most easily observed behaviors. Haring (1978) defined a hyperactive child as one

who is in constant motion. Children with this disorder are able to sit for only a few minutes at a time (Lerner, 1976).

Researchers have often discussed this symptom in combination with short attention, distractibility, or impulsivity (Cruickshank and Paul, 1971; Hallahan and Kauffman, 1978; Lerner, 1976; Marwit and Stenner, 1972). In support of these writers, Anderson et al. (1973) reported that hyperactive children were more subject to attentional deficits than children with a normal activity level. Others, such as Shelton (1977), believed that hyperactive problems often compounded emotional problems.

The relationship between hyperactivity, learning, and more specifically, reading, is unclear at this time. One view, as reported by Tarver and Hallahan (1974), stated that hyperactivity in children with learning disabilities may be "situational-specific." Thus, children who appear to be hyperactive in one setting may have a normal level of activity in another.

Sartain (1976) in his writings documented that hyperactivity is a correlate of a reading disability and not necessarily a cause. Freeman (1970) in support of this, wrote that hyperactivity may be a troublesome symptom which may well make it difficult for a child to learn. He further stated, however, that a specific relationship between activity level and other components of the learning process have not yet been determined. Also in support of this inconclusive relationship are Myers and Hammill

(1976), who reported that "the influence of hyperactivity on learning is not clear at this time."

Eisenberg (1975) documented that different studies undertaken to establish a relationship between academic achievement and hyperactivity are inconsistent and far from satisfactory. He attributed this deficiency to the short-term nature of the studies.

Distractibility

Closely related to both short attention and hyperactivity is the symptom of distractibility. Kirk et al. (1978) wrote that those who have short attention are generally easily distracted. Cruickshank and Paul (1971) defined distractibility as the child's inability to filter out extraneous stimuli and focus selectively on a task. They further reported that hyperactivity, impulsivity, and perseveration may all be explained by the child's distractibility.

Distraction problems are usually considered by authorities in the field of learning disabilities characteristic of learning disabled children (Faas, 1976; Hallahan and Kauffman, 1978; Kirk et al., 1978; Lerner, 1976). Research also indicated that achievement and distractibility were considered by some to be correlated. However, concerning the extent of this relationship, little precise or specific documentation was found. Kirk et al., for example, cited various authors who believed that

children low in academic achievement appeared to be more distractible than high achieving students. Eisenberg (1975) wrote that distractibility interfered with learning.

With reference to reading, Sartain (1976), in support of these authors, stated that a correlation between reading achievement and distractibility did exist. More specifically, Samuels (1973) reported in his summary of literature that poor readers were distracted by pictures.

In discussing auditory and visual distractions, Doyle (1976) reported that these types of distractions did affect the performance of some children with learning disabilities. Snell and Freundl (1971) documented that auditory distractions were a possible basis for a reading difficulty. Discussing this symptom from a different viewpoint, Myers and Hammill (1976) stated that as distractibility decreased, the ability to perform in learning situations increased.

Impulsivity

Another behavioral characteristic of learning disabled children often discussed by researchers is impulsivity (Cruikshank and Paul, 1971; Glasser, 1974; Hallahan and Kauffman, 1978; Haring, 1978; Lerner, 1976). These authors were supported by Tarver and Hallahan (1974), who wrote that children with learning disabilities tended to be more impulsive than other children. Lerner described impulsivity as the acting upon impulses without consideration of the consequences of the action.

Research showed that, due to its close relationship between distractibility and hyperactivity, the characteristic of impulsiveness was not frequently discussed as an individual symptom. However, various authors have documented their views concerning this characteristic and its relationship to a learning disabled child and learning achievement.

In discussing children who make impulsive decisions, Sartain (1976) believed, as with the other characteristics, that impulsiveness is a correlate of a reading disability. Wiener (1978) reported that children with language disabilities frequently had problems with impulse control.

With reference to reading, Egeland (1974) found that impulsive children generally made many errors while reading. In support of this, Harris and Sipay (1977) stated that the tendency to be impulsive is significantly related to the number of errors made in word recognition (Kagan, 1965). More specifically, these authors suggested that impulsive children tended to respond to a word based upon the first letter without due consideration to the succeeding letters.

Perseveration

Children who have fixed periods of attention, which last for unusually long periods of time, exhibit the characteristic of perseveration (Faas, 1976; Lerner, 1976). A child who perseverates may also have difficulty changing from one activity to another or may repeatedly complete the same task. Although some authorities do believe that

perseveration is a characteristic of learning disabled children (Cruickshank and Paul, 1971; Faas, 1976; Lerner, 1976), very little research was found concerning this symptom and its relationship to reading. However, some writers have documented that a relationship does exist.

Myers and Hammill (1976), for example, wrote that perseveration impedes learning, and that in oral reading a child who perseverates will repeat a phrase several times before continuing. They further reported that, in attempting to write a word, this type of child may repeatedly write the same letter or continually misspell the same word. These writers also discussed the possibility of frustration occurring with this type of behavior.

Lerner (1976) supported these authors, stating that once a child begins to write a letter, he may be unable to stop. Cruickshank and Paul (1971) and Gilliland (1974) agreed that a child who perseverates may repeat words or sentences over and over. With reference to frustration and perseveration, Gever (1970) wrote that a child who has experienced failure in learning may persevere with a task that he has succeeded in, thus minimizing his chances for further failure.

Emotional-Social Characteristics

Some authors have documented that learning disabled children frequently exhibit disorders in emotional and social development. Kirk et al. (1978), as an example,

reported that some children with learning disabilities are socially and emotionally immature. Also, Wiener (1978) concluded from her study that "children with different types of learning disabilities tended to have different emotional and social problems."

When referring to emotional problems, some researchers often discuss a weak or poor self-concept as a factor that many learning disabled children must contend with (Hallahan and Kauffman, 1978; Haring, 1978; Kirk et al., 1978). Describing their views, Hallahan and Kauffman wrote that a learning disabled child may have a low self-esteem. Haring stated that children with learning disabilities often express feelings of a weak self-concept.

Some authors in the field of learning disabilities have also discussed poor social skills as characteristic of children with learning disabilities (Faas, 1976; Kirk et al., 1978; Lerner, 1976; Myers and Hammill, 1976; Valett, 1969). Social deficits greatly inhibit learning (Lerner). She further reported that "this is probably the most debilitating learning problem the child can have."

Bryan (1975) believed that more attention should be given to the social lives of learning disabled children, and that social deficits should be considered part of the child's disability. He further suggested that appropriate social skills must be identified and taught to children with learning disabilities. One social deficit discussed by these

writers is the child's inability to effectively interact with his peers.

As indicated, both self-concept and peer relationships may be interrelated with each other or with the previously mentioned behavioral characteristics.

Role of Self-Concept in Reading Achievement

Sebeson (1973) documented that an important element of self-concept is the child's liking and satisfaction for his attainments. As previously shown, a poor self-concept is believed to be a characteristic of children with learning problems.

Research also reported various studies that established a relationship between reading and a child's self-esteem. Stevens (1971), for example, completed a study and found that disabled readers showed a low opinion of themselves. Harris and Sipay (1977) cited various authors who supported this, stating that disabled readers had poor self-concepts. Kirk et al. (1978) documented that self-confidence and self-esteem are prerequisites for learning to read. They further stated that confidence appears to have an impact upon reading success.

Kaluger and Kolson (1969) wrote that a child's self-concept will affect his learning. Sebeson (1973) supported this, documenting that a low self-concept resulted in underachievement in reading and in other academic subjects. Also

supporting these authors were Cohn and Kornelly (1973), who undertook a study and reported that as a child's self-esteem increased, so did his reading skills. Gillham (1973) also reported this finding, as did Herbert (1968), who wrote that a direct relationship exists between a high self-concept and reading comprehension.

Discussing this from a different viewpoint, Eisenberg (1975) and Robeck and Wilson (1974) stated that if a child has the conviction that he will fail, he most probably will. Spache (1976), supporting these authors, wrote that there exists "a dramatic relationship between self-concept and reading."

Peer Relationships

As previously discussed, some authors within the field of learning disabilities believed that inadequate relationships with peers is a trait many learning disabled children exhibit. Bryan (1975), for example, wrote that learning disabled children manifested those personality characteristics less attractable to other children. Bryan further stated that, "It is clear that learning disabled children are more rejected and less accepted than comparison peers." Lerner (1976) explained this as a lack of sensitivity toward people and believed that this affected most areas of a child's life.

In a study undertaken by Bryan, Wheeler et al. (1975), one of the conclusions drawn was that children with

learning disabilities experienced difficulties in their interpersonal relationships with others. These authors also found evidence suggesting that classmates tended to reject learning disabled children more than other peers.

Although research appeared to clearly indicate that children with learning disabilities had difficulties with peer relationships, the literature was not that conclusive on the relationship between this difficulty and reading. Kirk et al. (1978), as an example, documented that lack of sensitivity toward people may or may not be related to a child's reading difficulties. Others, such as Harris and Sipay (1977) and Spache (1976), wrote that poor peer relationships may affect a child's self-concept, thus affecting his reading performance. Spache documented that "peer rejection strengthens the low self-concept."

Some writers that have discussed children with reading problems do agree that these children have poor peer relationships (Harris and Sipay, 1977; Pumfrey and Elliott, 1970; Spache, 1976; Stevens, 1971). Stevens, for example, stated that, "remedial readers are not as socially well-accepted as their classroom peers." Pumfrey and Elliott reported that the relationship between a child's social adjustment and reading attainment has been investigated for years, and that most researchers agreed that a relationship existed. However, they believed that whether this social deficit is the cause, the effect, or concomitant with reading failure, is something which has not yet been determined.

Chapter 5

SELECTED READING APPROACHES: ADVANTAGES AND DISADVANTAGES

There have been more effort, research, and debate in the area of teaching reading than in any other area of the school curriculum (Kirk et al., 1978). Although this research has been undertaken, the literature failed to show that one reading approach was superior to another (Karlin, 1971). Research did indicate, however, that most children learn to read through a variety of methods or approaches (Harris and Sipay, 1977; Kirk et al., 1978).

The effectiveness of any reading approach may vary, depending upon the child and the learning situation. Among the many frequently discussed approaches, the language-experience, phonics, individualized reading, and programmed reading are four methods often reviewed by writers in the fields of Reading and Learning Disabilities (Bond and Tinker, 1967; Durkin, 1974; Harris and Sipay, 1977; Kirk et al., 1978; Lerner, 1976). This chapter will discuss these approaches, concerned specifically with the advantages and disadvantages as they relate to the learning disabled child.

The Language-Experience Approach

Chall (1967) reported that the language-experience approach stresses the importance of each child's unique interests and needs. Spache and Spache (1969) believed that this approach recognizes the close relationships between reading, speaking, listening and writing. This method is one which also emphasizes the child's oral and written expression abilities. Also, through this approach, a child realizes that his thoughts can be put into writing, which can then be read by him, as well as others. Stauffer (1970a) supported this, stating that reading becomes talk written down.

Allen and Allen (1970) believed that this method is important to a child for two reasons. They documented:

The importance of this approach lies in the fact that (1) the child provides himself with words he is interested in and wants to read, and (2) the child first sees speech translated into written words, instead of meeting printed words that must be turned back into speech.

They further stated that a child is more likely to grasp the concept of the correspondence between sound and letters, if he first turns his own speech into words and then reads those words.

Durkin (1974) discussed three prerequisites necessary for use of the language-experience approach. She reported that a child needed to have and must continue to have experiences. Also, the child must be capable of talking

about these experiences. In addition to these, the experiences, once written, must be usable in teaching the child to read.

Some underlying assumptions of the language-experience approach are: what a child can think about can be talked about; what a child can talk about can be written; and what is written can be read (Allen, 1968). In discussing his views, Wadsworth (1978) stated that language-experience approaches are based upon the assumption that learning to read must be based upon the experiences of the learner if they are to be effective.

Various authors have discussed some advantages, disadvantages, and necessary learning characteristics required for the use of this approach (Bond and Tinker, 1967; Harris and Sipay, 1977; Kirk et al., 1978; Lerner, 1976; Spache, 1976; Spache and Spache, 1969). The language-experience approach can and does make valuable contributions to reading growth (Bond and Tinker). Others, such as Durkin (1974) believed that it is logical to assume that a match between a child's spoken language and the language found in his reading would make learning to read a somewhat easier task. In support of this, Allen (1964) wrote that using a child's own language as a basis of reading instruction results in a high degree of independence in reading.

Discussing some criticisms of the language-experience approach, Spache (1976) reported that this method lacked repetition of basic vocabulary, that the words introduced

were of temporary value and that the content was restricted to the child's own knowledge and experiences. He further stated, however, that some authors who support this approach have refuted these criticisms through studies they undertook.

Kirk et al. (1978) have also expressed their views concerning this approach. They stated, for example, that the language-experience approach rejects the idea of a controlled vocabulary for beginning readers, and that the development of a basic sight vocabulary is dependent upon the child's oral expression. They further wrote that the primary emphasis of experience charts is comprehension, and that the learning of words is secondary. With regard to learning characteristics necessary for use of this approach, Lerner (1976) reported that the language-experience approach relies heavily upon the visual modality and visual memory for words.

According to Kirk et al. (1978), this method allows the child to progress at his own rate; success can be assured through the control of content; a child is able to easily focus his attention because of the relevance of the material; frustrations may be minimized because of this relevance; and a variety of meaningful activities, as used within this approach, may help to alleviate perseveration problems (Jordan, 1963). These authors also reported that this method has "vitality, immediacy, and creativity," and that a child's interests are usually held high. In discussing his

views, Braun (1977) wrote that interests and experiences need to be considered when remediating reading with disabled learners.

Various writers have attempted to determine if the language-experience approach is superior to other reading methods. Some researchers believed that, in general, the language-experience approach is neither superior nor a less adequate approach than other reading methods. Lerner (1978), as an example, found that with severely disabled readers, both the language-experience and basal type approaches were equally effective in improving reading achievement and attitude toward reading.

Durkin (1974) reported that research has not established a clear fact that the language-experience approach is superior to other reading methods. In support of this, Karlin (1971) stated that no single approach to teaching reading is measurably better than another. However, he did believe that this approach does offer some advantages that others do not. Lerner (1976) supported this, documenting that this approach has proven beneficial with older children who have reading difficulties.

Kirk et al. (1978) wrote that a method of instruction that capitalizes on the learning strengths of children, while counteracting their learning difficulties, holds great promise of success. They further stated that because the experience method allows for each stage of the reading process, it is highly appropriate and a very popular method for

introducing reading to slow and disabled learners. However, they did document that a definitive statement as to its affect in comparison to other approaches needs further research.

In discussing more specific findings, Spache (1976) cited various authors who found that the language-experience approach was as effective as other approaches in reading development, word or paragraph reading, and in vocabulary.

The language-experience approach and its relationship to Piaget's theory of development was also discussed in some literature (Borucki, 1976; Stauffer, 1970a; Wadsworth, 1978). Borucki, for example, wrote that knowledge of the cognitive level of a child is a prerequisite to reading instruction. She further suggested that the language-experience approach may be more compatible with Piaget's stages of cognitive growth than reading approaches emphasizing decoding skills. DeMao (1976) supported this, documenting that, "the language experience approach to reading is the method most consistent with Piagetian theory." Other writers, such as Wadsworth, believed that, in general, the language-experience approach is more consistent with Piagetian concepts than other methods of reading instruction. More specifically, he believed that the "Ashton-Warner" (1963) language-experience method is most compatible with Piaget's theory of cognitive development.

Phonics Approach

One of the most widely used reading approaches within our school system is phonics. Myers and Hammill (1976) defined phonics as the "system of relating speech sounds to specific letters or letter combinations." Although there exist various phonics programs, most phonics methods teach children to associate speech sounds with letters or groups of letters (Kirk et al., 1978), regardless of the order that different phonics subskills are presented.

Similar to other reading approaches, the phonics method has some suggested, prerequisite, learning characteristics that may affect the success in the use of this approach. Durkin (1974), for example, wrote that a sizeable listening and speaking vocabulary are necessary for success in phonics. Another prerequisite is the ability to perceive similarities and differences in speech sounds (Durkin, 1974; Harris and Sipay, 1977; Kirk et al., 1978). Harris and Sipay further stated that a child must distinguish these sounds in word beginnings, endings, and with vowels in different words. These writers also believed that the ability to rhyme words and to blend sounds mentally after they are given orally, is necessary to adequately function within a phonics approach. Another necessary skill is the ability to accurately pronounce words and letters.

Since reading is a visual process, the phonics method also utilizes the visual field. Thus, the ability

to visually distinguish among letters is also needed for success in phonics (Durkin, 1974). In support of these authors, Kirk et al. (1978) wrote that phonics should be introduced only after the child has developed an adequate perception of sounds and is able to recognize the significance of the printed word.

The role of phonics, when and how it should be taught, is a question that has been considered by researchers for quite some time. Research indicated that various authors have discussed their views concerning the importance of phonics and reading (Durkin, 1974; Durrell, 1968; Kaluger and Kolson, 1969; Schnepf and Meyer, 1971; Spache and Spache, 1969). Durkin, for example, wrote that phonics is a means for fostering an independence that allows children to decode words on their own. Others believed that phonics is crucial for word attack skills (Schnepf and Meyer). In discussing their views, Durrell and Spache and Spache stated that phonics skills are necessary for most reading programs used today. In support of these writers, Kaluger and Kolson documented that a child must have skill in using phonics to unlock words, and that phonics is an essential part of a reading program.

Various writers have also expressed some criticisms of the phonics approach. Harris and Sipay (1977) wrote that Gates (1947) criticized the phonics method, stating that, "It is a definite, rigid, hard-drill program." These authors further wrote that this approach fosters a

lack of interest in reading, especially in the initial stages; that reading of meaningful material is delayed for a longer period of time than with other reading approaches; and, that often, slow and labored reading is produced. In discussing their views, Kirk et al. (1978) documented that many arguments against the use of phonics referred to its extreme use in beginning reading and to its excessive use which hinders comprehension.

Although much research has been conducted on the value of phonics with children, the literature is inconclusive as to the results. Some studies have shown phonics to be beneficial, while others have shown it to be detrimental (Kirk et al., 1978). Within their research, various authors have attempted to determine the effectiveness of phonics as it is used with slow and disabled readers and with learning disabled children. Chall (1967), for example, summarized from her research that the phonics approach, if properly designed, proved helpful to disabled readers. She further stated that progress in reading may be slower if a phonics approach is used, but the end results are probably more satisfactory than other methods. Others, such as Cawley (1972), concluded that research was not definitive as to whether a direct phonics approach is profitable to slow learners.

In discussing the phonics approach and learning disabled children, Kirk et al. (1978) reported that phonics training, if used properly, is beneficial to children who

have learning disabilities. They stated, "When properly taught, phonics is not confusing to these children, but rather becomes a helpful tool in the decoding process." They also believed that children with a deficit in auditory perception often have difficulty in learning phonics skills. Lerner (1976) supported this, stating that many children who have problems in learning phonics also have poor auditory processing skills. Phonics methods demand good auditory discrimination and memory (Harris and Sipay, 1977; Kirk et al., 1978).

Kirk et al. believed that a "simplified" phonics approach should be used with children who have learning deficits. They reported that this type of an approach should utilize the regular spelled words, rather than the common irregular spelled words. They also believed that learning disabled children should not be taught phonics rules because of the abstract generalizations involved, and that comprehension should be incorporated into this phonics method.

Individualized Approach

An individual approach to teaching reading emphasizes the development of the individual child rather than the importance of the materials, their sequence, and their absolute essentiality (Spache and Spache, 1969). The individualized approach is based upon the principles of self-selection and self-pacing (Chall, 1967; Harris and Sipay,

1977; Karlin, 1971; Kirk et al., 1978; Lerner, 1976; Spache and Spache, 1969). Thus, each child selects reading material based upon his personal interests and proceeds at a rate appropriate for his individual needs.

Research indicated that certain components comprise the individualized reading method. Some of the more frequently discussed parts include: organization of each individual program; individual conferences with each child; establishing independent activities; and keeping appropriate and orderly records of the child's progress (Durkin, 1974; Harris and Sipay, 1977; Karlin, 1971; Lerner, 1976; Spache and Spache, 1969). Included within this method is some plan for the way skills are taught, how they can be practiced and maintained, and what plans are made to provide extra practice for children who require it (Durkin, 1974).

Various researchers have discussed the goals and aims of the individualized approach. Lerner (1976), for example, wrote that the goal of the individualized reading program is to assure that each child within a classroom is in books that are suited to his individual needs. In discussing learning characteristics of a child, Harris and Sipay (1977) stated that, "Individualized reading makes it possible to provide maximum flexibility in adjusting reading to individual abilities, interests, and needs." In support of these authors, Gilliland (1974) wrote that the teacher must know the needs, the strengths, and the weaknesses of each individual, and plan the remedial program to

meet those needs. Also, the individualized approach emphasizes comprehension of the meaning of words and sentences before the analysis of words is begun (Chall, 1967; Kirk et al., 1978).

The effectiveness of the individualized reading method, as it is used with children who have learning and reading disabilities, was also discussed within the literature. Harris and Sipay (1977), as an example, wrote that less capable students, and those having special problems, are likely to be less successful in individualized reading than in more structured programs. Kirk et al. (1978) supported this, stating that the individualized approach to reading is of questionable value with slow-learning or learning-disabled children. They believed that too much material was left to self-learning, and that the lack of a systematic check exists to determine whether basic steps in the reading process have been mastered.

Some authorities, however, do believe that this approach could be beneficial to some disabled learners. Lerner (1976), for example, documented that this approach has proven to be successful with children who have difficulties in working within a group. She also stated that this method may help to develop a positive attitude toward reading. Harris and Sipay (1977) believed that this approach could produce excellent results if proper learning conditions existed. Other researchers stated that the individualized reading approach would be best suited for children

with learning disabilities, after the child had mastered the basic fundamentals of reading (Kirk et al., 1978).

Programmed Reading Approach

A rather recent innovation in reading instruction, and one growing in popularity, is programmed instruction (Kirk et al., 1978). This type of an approach is designed to provide self-instruction, self-correction, and immediate reinforcement (Harris and Sipay, 1977; Karlin, 1971; Kirk et al., 1978; Lerner, 1976). In programmed reading, small amounts of information are introduced at one time, the child immediately corrects his response to each question or statement, and the material provided within each programmed reader, follows a sequential order. Karlin (1971) believed that the principles underlying programmed instruction are consistent with general learning constructs. He specifically related this to the use of immediate reinforcement and to the sequential order that the material is presented in.

Other characteristics of programmed reading include: active participation of the learner; frequent corrections of errors; over-learning (Lerner, 1976); and learning by conditioning (Spache and Spache, 1969). In discussing their views, Bond and Tinker (1967) wrote that programmed instruction is best for the learning of facts that need to be memorized and for learning those processes that need to become automatic.

Conclusive evidence concerning the effectiveness of programmed reading with remedial readers and learning disabled children, was not found within the literature. Spache and Spache (1969), for example, wrote that its effect upon teaching in the field of reading is still small. In support of this, Harris and Sipay (1977) documented that, "the remedial value of any particular set of programmed materials still needs to be verified." Myers and Hammill (1976) concluded from their research that the programmed method appeared to be as effective as other approaches in the teaching of school subjects.

In discussing various advantages of this approach, Spache (1976) reported that programmed instruction was effective in learning the factual and mechanical aspects of reading. Kaluger and Kolson (1969) stated that advocates of programmed instruction believed it is beneficial to a child because he is actively involved in the learning process. They also documented that self-pacing may help to alleviate tension and anxiety, which may hinder a child's learning.

Others, such as Putnam (1968) wrote that programmed reading was good for slow learning children and also found that because of the mastery level in learning the content, failure may be prevented. In support of this, Kirk et al. (1978) cited various authors who believed that programmed instruction did help slow learners to make progress in reading. These writers also stated that elements of repeated practice, self-pacing, and immediate feedback may be

helpful to slow and disabled learners. Supporting this is Gilliland (1974) who wrote that programmed instruction may be useful in teaching remedial reading because of the advantages of small steps, active participation, and immediate reinforcement. Also supporting these writers, Bond and Tinker (1967) stated that since much repetition is frequently necessary in remedial instruction, the programmed approach may help to serve that role.

Various authors have also expressed their criticisms of the programmed approach. Durkin (1974), for example, wrote that programmed materials dwell on repetition and encourage too much guesswork from the pictures. Myers and Hammill (1976) documented that Bernstein (1967) questioned the motivational value of programmed readers, stating that the material is dull and unimaginative. Others, such as Karlin (1971) suggested that a weakness in programmed reading may be due to the child's inability to understand the material presented. In support of this, Putnam (1968) wrote that when an error is made in the programmed reader, little attempt is made to analyze the reason for the error or to teach the concept in a new way.

Criticisms discussed by Spache (1976) included the idea that learning to read tended to become broken down into disjointed bits and apparently unrelated skills, and not a moving process of interpretation that involves the use of many skills almost simultaneously. He further wrote that programmed reading tended to separate reading training

from the other supportive areas of speaking, listening, and writing. Also, that programmed instruction cannot deal with the highly significant factors of the learner's aptitudes and personality variables or with the all-important teacher-pupil interaction.

Chapter 6

SUMMARY

Research indicated that very few studies have been undertaken to specifically investigate the reading processes that may be characteristic of children with learning disabilities. Literature also suggested that the lack of progress in reading cannot be due to the child alone, nor to the approach alone, but rather to the match between the approaches utilized and the child's individual characteristics.

This research project consisted of a literary review of selected characteristics of children with learning disabilities and their relationship to reading. The thirty-three characteristics discussed were divided into three categories. They were: (1) selected cognitive abilities; (2) speech and language development; and (3) selected behavioral and emotional-social characteristics. Also included was a discussion of Piaget's Theory of Cognitive Development and the relationship between reading and selected aspects of this theory.

This review of literature also considered four approaches to teaching reading to children with learning disabilities. These approaches were discussed in terms of

their advantages and disadvantages as they are utilized with learning disabled children.

This chapter will include a summary of these findings and will present some suggested recommendations concerning future research within the area of reading as it relates to children with learning disabilities.

Summary of Research

Concept formation, or the ability to conceptualize major ideas, was found to be important in reading achievement, specifically in reading comprehension. Research indicated that this ability and the ability to think were closely interrelated. The two types of thinking considered were divergent and convergent thinking. Efficiency in both forms of thinking were found to be necessary in reading, especially in reading comprehension.

As indicated, Piaget's theory of cognitive development was also discussed. Research showed that few studies had been undertaken concerning this theory and its relationship to reading. The studies that have been undertaken were primarily concerned with four Piagetian tasks and their relationship to reading. The tasks of symbolic functioning, conservation, classification, and seriation were all found to have a slight, but positive, relationship to reading achievement, with seriation having the highest correlation. No empirical evidence was found that discussed the relationship between reading and the formal operations period.

Various subabilities of auditory and visual perception were also considered within this project. Research suggested that both visual and auditory perception are necessary for reading. However, the extent many of these subabilities relate to reading is still controversial.

The five subabilities of visual perception discussed in this research were: acuity, reception, discrimination, closure, and memory. The relationship between visual acuity and reading was inconclusive, while writers appeared to agree that visual reception, discrimination, closure, and memory did relate to reading in varying degrees.

These five subabilities were also considered within the area of auditory perception. The literature was contradictory on the relationship between reading and auditory acuity, memory, and discrimination. The area of auditory reception was related more closely with spoken language, and little information was found concerning its direct relationship to reading. Auditory closure, however, was found to be related to reading, specifically in word attack skills.

Modality preference and training was also discussed. Although various authors have attempted to establish a relationship between processing dysfunction and reading, the findings were conflicting. Three specific approaches within this area were investigated. They were: process training, the preferred modality approach, and the combined modality approach. Most authors contended that both auditory and visual modality training did not enhance the

ability to read. Concerning the preferred modality approach and its effects upon reading achievement, the literature was either inconclusive or showed insignificant results. Research also showed that few studies concerning the combined modality approach had been undertaken. However, various writers have documented that audiovisual integration abilities are significantly related to reading.

This author also found that speech and language development are important and prerequisite to the acquisition of reading. Adequate inner, receptive, and expressive language abilities were all found related to reading achievement. The literature also indicated that the size of both listening and speaking vocabularies are closely related to achievement in reading.

Within the area of language deficits, syntax disorders were also found related to reading. Specifically, a child with syntax deficits may omit or rearrange words while reading. The concept of maturational lag was discussed as a possible explanation of delayed speech and language development. Relating this to reading, various researchers stated that because a lag in development existed, some children may not be ready for traditional approaches in beginning reading instruction.

This project also explored the relationship between reading and attention deficits, hyperactivity, distractibility, impulsivity, and perseveration. Various writers contended that all these disabilities were correlated

with reading. However, the evidence supporting the relationship between reading and attention deficits and hyperactivity was either contradictory or inconclusive. As indicated, distractibility and reading were considered related, but specific information concerning this relationship was not obtained. Impulsivity, also considered a correlate of reading problems, was specifically related to poor word recognition skills. Precisely how perseveration was related to reading achievement was not determined.

A child's self-concept was found to be significantly related to reading achievement. Most authorities agreed that as a child's self-concept increased, so did his reading skills. Also shown within this research, was that children with learning disabilities frequently have poor peer relationships. However, the literature failed to show precisely how this problem related to reading.

The four reading approaches considered within this research were: the language-experience approach, the phonics approach, individualized reading, and programmed reading. In teaching reading, the language-experience method was found to be as effective as other reading approaches. Some of the advantages of this method included: a child progressing at his own rate, a child's attention and interests may be sustained for a longer period of time due to the relevance of the material, and, that this approach fostered creativity in children. In criticism of this approach, various authors believed that this method

lacked repetition of basic vocabulary, and that it was limited to a child's own experiences and knowledge. This approach tends to rely upon visual memory and the visual modality and is considered by some writers to be the most compatible reading approach with Piaget's Theory of Cognitive Development.

Various authors believed that the phonics approach fostered independence in reading and that phonics was necessary for word attack skills. Research indicated that the value and effectiveness of phonics depended upon the child and the situation. Some writers found phonics to be beneficial, while others found it detrimental. Most authorities agreed that intact auditory perception skills, visual discrimination, and a sizeable listening and speaking vocabulary were necessary for a child to have success with a phonics approach.

In discussing some criticisms of this approach, some writers reported that it fostered a lack of interest in reading, it delayed the reading of meaningful material, and that, often, slow and labored readers were produced. Although research was inconclusive concerning the use of phonics with learning disabled children, some authorities did believe that if this approach was simplified, it may be beneficial for children with learning disabilities. This simplified approach included using regular spelled words and not introducing or explaining phonics rules.

Research indicated that unless very favorable learning conditions existed, the individualized reading approach was likely to be less successful with learning disabled children than other more structured approaches. Some authors believed that too much was left to self-learning, and that a systematic check to determine if basic reading skills had been mastered did not exist. However, some researchers did state that this approach may be beneficial to children who have difficulties working within a group situation, and that this method may help foster a positive attitude toward reading.

The research discussing the effectiveness of programmed reading with learning disabled children, revealed inconclusive results. In discussing some criticisms of this approach, various writers wrote that programmed reading dwelled upon repetition, encouraged guesswork from pictures, and contained unimaginative material. Also, the material was broken into apparently disjointed and unrelated skills, and that a lack of teacher-pupil interaction existed.

Some advantages of this method included the frequent corrections of errors, overlearning of the material, a mastery learning level of the content, immediate reinforcement, and self-pacing. This approach was also considered beneficial in helping children to learn the factual and mechanical facts of reading.

Recommendations for Future Research

The evidence documented within this research project directed this author to suggest the following recommendations concerning future research. This writer recommends that further studies be conducted on the cognitive characteristics of learning disabled children, with continued emphasis upon specific results and conclusions.

With respect to Piaget's theory and reading, little or no research was found concerning the Formal Operations Period as it related to reading achievement. This author suggests that studies be undertaken in this area and that different Piagetian tasks be selected and researched to determine their relationship to reading. This writer further recommends that, because the task of seriation was found closely related to reading, future studies should be conducted to provide more insight into this relationship.

Within the area of speech and language, this author suggests that more research be concerned with the levels of language development and how reading approaches may be best matched to a child's functioning language level. This investigator also suggests that research concerning the behavioral and emotional-social characteristics attempt to determine how these deficits may be accounted for within different reading methods, rather than whether these disabilities are the cause or effect of a reading problem. More specifically, this writer recommends that research

attempt to determine how various reading approaches may be adapted to best meet a learning disabled child's individual needs and abilities.

Although not explicitly stated, implied within this research was the idea that children who experience reading difficulties, but who are not labeled learning disabled, appear to have some similar characteristics as those found within children who are classified as learning disabled. This author recommends that the disciplines of Learning Disabilities and Reading, particularly the area of remedial reading, continue to merge, rather than remain as separate fields, with the intent of exchanging ideas to better serve both children labeled learning disabled and those termed reading disabled.

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